Logical Database Design

The Logical Database Design documents the logical data structures supported by the database management system (DBMS) and file management software. Use this deliverable to design and document the database in a manner appropriate to how it will be viewed by the application developers and end users. For relational databases, this deliverable will include: tables that will have columns, primary keys, and row lengths; codes tables; foreign keys; integrity rules; views; DBMS features; and possibly denormalization.

When implementing packaged software, this composite deliverable will be used to document changes to the baseline packaged application. Refer to packaged software documentation for information on the baseline packaged application.

I.	**IPT Name:**	
II.	**Deliverable Name:** Logical Database Design	**Date Completed:**
III.	**Contact Information**	
	Name	Channel Unit
IPT Sponsor		
Channel Task Manager		
CIO Task Manager		
Contractor Task Manager		
IV.	**Task Order Number:**	

Description

The Logical Database Design is made up of the following deliverables:

- Codes Table Definition
- Data Element Definition
- File Definition
- Logical Database Diagram
- Record Definition
- Relational Table Definition

Codes Table Definition

Defines the contents of a decode table (codes and keys, and their decode values) that will normally be used to decode data element values. Use this deliverable to define a fixed set of data keys and their associated values for a data element.

Codes Table Definition

General

Type:	Codes Table Definition
Version number:	1.0
Version labels:	1.0 CURRENT

Created:	08 / 24 / 98 08:33:52 AM
Modified:	10 / 22 / 98 02:58:08 PM
Last modified by:	UserX
Created by:	UserX

Summary

Name:	Great Lakes State Codes
Title (Description):	This table defines the state abbreviations for States in the Great Lakes region of the USA.

Keywords:

Details

Record

Name:	StateCodes
Effective date?:	No

Codes Data

List of data:

Language	Effective date	Key	Data
English		IL	Illinois
English		IN	Indiana
English		MI	Michigan
English		OH	Ohio
English		WI	Wisconsin

Additional Information

The following section can be used to provide additional information. It is free text only and will not be stored in the associated property pages.

Data Element Definition

This deliverable describes a data element used in the application. Use this deliverable to describe every data element used by the application.

Data Element Definition

General

Type:	Data Element Definition
Version number:	1.0
Version labels:	1.0 CURRENT

Created:	08 / 24 / 96 08:33:52 AM
Modified:	10 / 22 / 98 03:14:08 PM
Last modified by:	UserX
Created by:	UserX

Summary

Name:	Customer Age
Title (Description):	Age of the customer

Keywords:

Internal

Data type:	Integer
Format:	Numeric
Length:	3
Precision:	0
Usage:	Binary
Formatting:	999

Display

Format:	Numeric

Length: 3
Precision: 0
Formatting: 999

Decode Table

Name:

Programming

List of programming languages:

Language	Name	Format	Length	Precision	Usage	Formatting
C	customer_age	numeric	3	0	short	999
COBOL	CUSTOMER-AGE	numeric	3	0	numeric	999
C++	customer_age	numeric	3	0	short int	999
ADA	Customer_Age	numeric	3	0	integer	999
JAVA	Customer Age	numeric	3	0	byte	999

Literals

List of literals:

Type	Text
Short	Age
Default	Customer Age

Derived From

List of attributes / domains:

Attribute/Domain	Type of Attribute/Domain
AGE	Attribute Type Definition

Values

List of valid values:

Value	Description	COBOL name	Literal	Default internal?	Default display?

Ranges

List of valid ranges:

Lower bound	Upper bound	Includes lower bound?	Includes upper bound?	COBOL name	Description
0	17	Yes	Yes	MINOR	Minor Customer
18	61	Yes	Yes	STANDARD	Standard Customer
62	high_value	Yes	Yes	SENIOR	Senior Customer

88-Level

List of 88-level items:

Name	Value
CUST-REQS-GUARDIAN	0 THRU 17
CUST-GETS-DISCNT	62 THRU HIGH-VALUE

Additional Information

The following section can be used to provide additional information. It is free text only and will not be stored in the associated property pages.

File Definition

The File Definition deliverable describes an organized collection of records used to store data. When developing the file design, use the file definition to identify the characteristics of a file.

File Definition

General

Type:	File Definition
Version number:	1.0
Version labels:	1.0
	CURRENT

Created:	08/24/96 08:33:52 AM
Modified:	10/23/98 11:57:08 AM
Last modified by:	UserX
Created by:	UserX

Summary

Name:	Customer Master File
Title (Description):	Stores customer related data.

Keywords:

Details

Function:	Sort
Access method:	VSAM
Organization:	KSDS
Default access:	Sequential
Record format:	Fixed
Maximum length:	1000

Primary Key

Record/Data Element

Name: CustID
Type: Data Element Definition

Position: 1

Alternate Keys

List of alternate keys:

Data item	Type of Data item	Position	Unique?
CustName	Record Definition	9	No
CustPhone	Record Definition	38	No
CustAddr	Record Definition	65	No

Records

List of records:

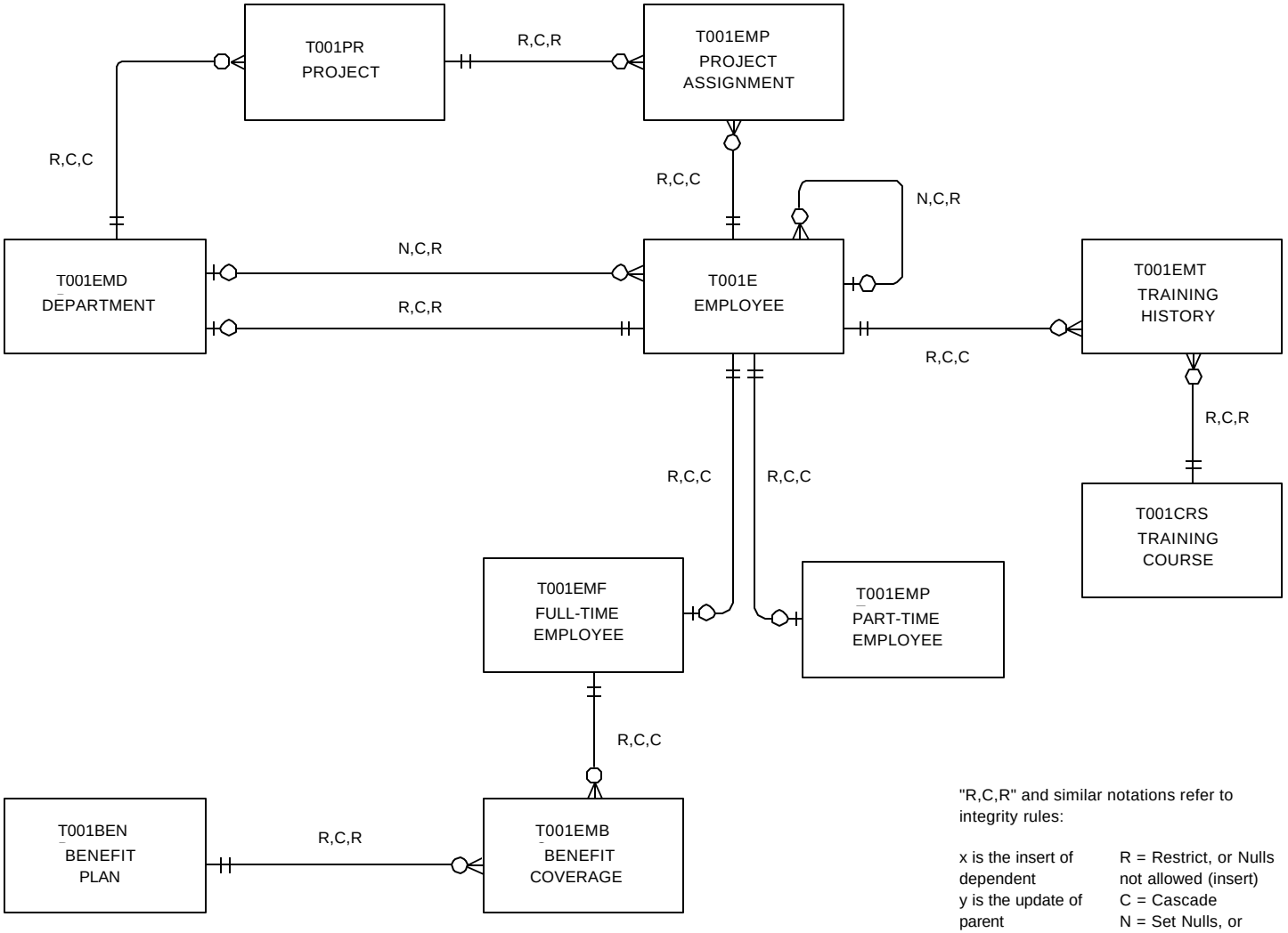
Record
Customer

Additional Information

The following section can be used to provide additional information. It is free text only and will not be stored in the associated property pages.

Logical Database Diagram

The Logical Database Diagram deliverable shows the relationships between the logical components of a database. In this sense, it is similar to the entity-relationship diagram and, therefore, uses much of the same symbolism. Use this deliverable to model the logical design of a database and to represent the data requirements in terms of database structures such as tables and relationships.



"R,C,R" and similar notations refer to integrity rules:

x is the insert of dependent	R = Restrict, or Nulls not allowed (insert)
y is the update of parent	C = Cascade
z is the delete of parent	N = Set Nulls, or Nulls allowed (insert)

Record Definition

The Record Definition deliverable describes a data structure of data elements, read or written as a unit by a program. Each record often corresponds to an entity within the application. Use the Record Definition deliverable to provide a description of each record layout, table layout, message layout, and data layout in the application. This object type is used to specify a logical, ordered collection of data groups and data elements. This collection is then used to define common physical structures such as a record in a sequential file, a row in a relational table, a message, or the layout of a data copybook.

Record Definition

General

Type:	Record Definition
Version number:	1.0
Version labels:	1.0 CURRENT

Created:	08/24/96 08:33 AM
Modified:	10/23/98 11:39 AM
Last modified by:	UserX
Created by:	UserX

Summary

Name:	INITIALROOM
Title (Description):	This record contains the layout used to initialize a new ROOM record.

Keywords:

Details

Length: 500

Record alias

Name:

Sub-Components

List of data items:

Redefines?	Data item	Type of Data item	Occurs	... Depending On
No	Room_Code	Data Element Definition	18	Num_Rm_Code
No	Available	Data Element Definition		
No	Room_Type	Data Element Definition		
No	ROOMAMENITY	Record Definition		

Programming Language

List of names:

Language	Name	Prefix
COBOL	INITIALROOM	IR-
C	InitialRoom	ir_
C++	InitialRoom	ir_
JAVA	InitialRoom	ir_
ADA	Initial_Room	IR_

Additional Information

The following section can be used to provide additional information. It is free text only and will not be stored in the associated property pages.

Relational Table Definition

The Relational Table Definition deliverable defines the organization, storage, and access method used to find information within the database. When the application uses a relational database, the relational table definition is necessary to describe characteristics of a relational table.

Relational Table Definition

General

Type:	Relational Table Definition
Version number:	1.0
Version labels:	1.0 CURRENT

Created:	08/24/96 08:33 AM
Modified:	11/04/98 12:10 PM
Last modified by:	UserX
Created by:	UserX

Summary

Name:	CUSTOMER
Title (Description):	A storage location for customer related data.

Keywords:

Details

Category:	Application

Columns

List of columns:

Data element	Primary key?	Allow null?	Default null?
Cust_ID	Yes	No	No
Cust_Name	No	No	No
Cust_Street_Addr	No	No	No
Cust_City	No	No	No
Cust_State	No	No	No
Cust_Zip	No	No	No
Cust_+4	No	Yes	No
Cust_DOB	No	Yes	No

Indexes

List of indexes:

Index
Customers
Minors
Seniors
Standards

Triggers

List of triggers:

Condition	Module
	ProcCustAcct.c
	CreateCustAcct.c
	UpdtCustAcct.c
	ValidtAddr.c

Additional Information

The following section can be used to provide additional information. It is free text only and will not be stored in the associated property pages.